

REMARKS

I. Introduction

Claims 9, 14 and 15 remain pending in the present application after cancellation of claims 10-13 and 16. Claims 9, 14 and 15 have been amended. In view of the foregoing amendments and the following remarks, it is respectfully submitted that claims 9, 14 and 15 are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 9, 10, 13, 15 and 16 under 35 U.S.C. §102(b)

Claims 9, 10, 13, 15 and 16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,203,945 ("Hasegawa"). Claims 10, 13 and 16 have been canceled. Applicants respectfully submit that claims 9 and 15 are not anticipated by the applied reference, for at least the reasons set forth below.

To anticipate a claim under § 102(b), a single prior art reference must identically disclose each and every claim element. See Lindeman Maschinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claimed element is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997). Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claim invention, **arranged exactly as in the claim**. Lindeman, 703 F.2d 1458 (Emphasis added). Additionally, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as discussed above. See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). To the extent that the Examiner may be relying on the doctrine of inherent disclosure for the anticipation rejection, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art." (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Claim 9 has been amended to incorporate the feature of previously pending claims 11 and 12, i.e., amended claim 9 recites, in relevant parts, "wherein the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that results from a resolution of a signal having the higher resolution between the at least two signals; and wherein the at least two signals are pulse-width modulated signals." Claim 15 has been

amended to incorporate, inter alia, the features of previously pending claims 12 and 14, i.e., amended claim 15 recites, in relevant parts, “wherein the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted; and wherein the at least two signals are pulse-width modulated signals.” Hasegawa clearly does not teach or suggest the above-recited features, as implicitly acknowledged by the Examiner’s failure to reject claims 11, 12 and 14 in view of Hasegawa.

For at least the foregoing reasons, Applicants submit that amended claims 9 and 15 are allowable over Hasegawa. Withdrawal of the anticipation rejection is requested.

III. Rejection of Claims 9-11 and 13-16 under 35 U.S.C. §103(a)

Claims 9-11 and 13-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 20010044862 (“Mergard”). Claims 10, 11, 13 and 16 have been canceled. Applicants respectfully submit that pending claims 9, 14 and 15 are not rendered obvious by Mergard, for at least the reasons set forth below.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. M.P.E.P. §2143. In addition, as clearly indicated by the Supreme Court, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to [modify] the [prior art] elements” in the manner claimed. See KSR Int’l Co. v. Teleflex, Inc., 82 U.S.P.Q.2d 1385 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” Id., at 1396. To the extent that the Examiner may be relying on the doctrine of inherent disclosure in support of the obviousness rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112;

emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Claim 9 has been amended to incorporate the feature of previously pending claims 11 and 12, i.e., amended claim 9 recites, in relevant parts, “wherein the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that results from a resolution of a signal having the higher resolution between the at least two signals; and wherein the at least two signals are pulse-width modulated signals.” Claim 14 has been amended to incorporate the features of previously pending claims 9 and 12, i.e., amended claim 14 recites, in relevant parts, “wherein the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted; and wherein the at least two signals are pulse-width modulated signals.” Claim 15 has been amended to incorporate, inter alia, the features of previously pending claims 12 and 14, i.e., amended claim 15 recites, in relevant parts, “wherein the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted; and wherein the at least two signals are pulse-width modulated signals.”

First, with respect to claims 9, 14 and 15, Mergard clearly does not teach or suggest that “the at least two signals are pulse-width modulated signals,” (which feature was previously recited in claim 12), as implicitly acknowledged by the Examiner’s failure to reject claim 12 in view of Mergard. Furthermore, with respect to claim 9, there is clearly no suggestion in Mergard regarding the claimed feature that “the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that results from a resolution of a signal having the higher resolution between the at least two signals,” (which feature was previously recited in claim 11), and the Examiner has not even addressed this claimed feature in connection with the rejection based on Mergard. In addition, with respect to claims 14 and 15, there is clearly no suggestion in Mergard regarding the claimed feature that “the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted,” and the Examiner has not even addressed this claimed feature in connection with the rejection based on Mergard.

For at least the foregoing reasons, Applicants submit that claims 9, 14 and 15 are allowable over Mergard. Withdrawal of the obviousness rejection is requested.

IV. Rejection of Claims 9-16 under 35 U.S.C. § 103(a)

Claims 9-16 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimada (JP 11-178349). Claims 10-13 and 16 have been canceled. Applicants respectfully submit that pending claims 9, 14 and 15 are not rendered obvious by Shimada, for at least the reasons set forth below.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. M.P.E.P. §2143. In addition, as clearly indicated by the Supreme Court, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to [modify] the [prior art] elements” in the manner claimed. See KSR Int’l Co. v. Teleflex, Inc., 82 U.S.P.Q.2d 1385 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” Id., at 1396. To the extent that the Examiner may be relying on the doctrine of inherent disclosure in support of the obviousness rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)). In rejecting a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993).

Amended claims 9, 14 and 15 recite, in relevant parts, that “the at least two signals are pulse-width modulated signals.” Amended claim 9 additionally recites that “the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that

results from a resolution of a signal having the higher resolution between the at least two signals.” Furthermore, claims 14 and 15 additionally recite that “the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted.” In support of the rejection, the Examiner merely contends that Shimada “does not discuss the clock rate in the abstract but would have been obvious to select a clock of sufficient speed such that bits would not be missed.” Applicants respectfully submit that this contention of the Examiner clearly fails to satisfy the Supreme Court’s stated guideline that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” See KSR Int’l Co. v. Teleflex, Inc., 82 U.S.P.Q.2d 1385, 1396 (2007). Given the fact that the Examiner acknowledges that Shimada does not even address the clock rate, it is simply a mystery as to what would guide one of ordinary skill in the art to arrive at the claimed features that “the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that results from a resolution of a signal having the higher resolution between the at least two signals” (as recited in claim 9) and that “the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted” (as recited in claims 14 and 15). Independent of the above, Applicants note that the Examiner has not even addressed the claimed feature that “the at least two signals are pulse-width modulated signals.”

For at least the foregoing reasons, claims 9, 14 and 15 are allowable over Shimada. Withdrawal of the obviousness rejection is requested.

V. Rejection of Claims 9-11 and 13-16 under 35 U.S.C. § 103(a)

Claims 9-11 and 13-16 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,475,831 ("Yoshida"). Claims 10-11, 13 and 16 have been canceled. Applicants respectfully submit that pending claims 9, 14 and 15 are not rendered obvious by Yoshida, for at least the reasons set forth below.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. M.P.E.P. §2143. In addition, as clearly indicated by the Supreme Court, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to [modify] the [prior art] elements” in the manner claimed. See KSR Int’l Co. v. Teleflex, Inc., 82 U.S.P.Q.2d 1385 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” Id., at 1396. To the extent that the Examiner may be relying on the doctrine of inherent disclosure in support of the obviousness rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Claim 9 has been amended to incorporate the feature of previously pending claims 11 and 12, i.e., amended claim 9 recites, in relevant parts, “wherein the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that results from a resolution of a signal having the higher resolution between the at least two signals; and wherein the at least two signals are pulse-width modulated signals.” Claim 14 has been amended to incorporate the features of previously pending claims 9 and 12, i.e., amended claim 14 recites, in relevant parts, “wherein the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted; and wherein the at least two signals are pulse-width modulated signals.” Claim 15 has been amended to incorporate, inter alia, the features of previously pending claims 12 and 14, i.e., amended claim 15 recites, in relevant parts, “wherein the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted; and wherein the at least two signals are pulse-width modulated signals.”

First, with respect to claims 9, 14 and 15, Yoshida clearly does not teach or suggest that “the at least two signals are pulse-width modulated signals,” (which feature was previously recited in claim 12), as implicitly acknowledged by the Examiner’s failure to

reject claim 12 in view of Yoshida. Furthermore, with respect to claim 9, there is clearly no suggestion in Yoshida regarding the claimed feature that "the automatic clocking is performed at a clock-pulse rate that is at least twice as high as a signal rate that results from a resolution of a signal having the higher resolution between the at least two signals," (which feature was previously recited in claim 11), and the Examiner has not even addressed this claimed feature in connection with the rejection based on Yoshida. In addition, with respect to claims 14 and 15, there is clearly no suggestion in Yoshida regarding the claimed feature that "the automatic clocking occurs at a clock-pulse rate, and a cycle time resulting from the clock-pulse rate is one of less than and equal to a slope time of the at least two signals transmitted," and the Examiner has not even addressed this claimed feature in connection with the rejection based on Yoshida.

For at least the foregoing reasons, Applicants submit that claims 9, 14 and 15 are allowable over Yoshida.

CONCLUSION

It is therefore respectfully submitted that the pending claims 9, 14 and 15 are allowable. All issues raised by the Examiner have been addressed, and an early and favorable action on the merits is solicited.

Respectfully submitted,

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